

REMARKS

Status of the claims

Claims 21, 28, 40, 43, 99-104, 107-113, 120-135, and 137-143 were pending and claims 21, 28, 40, 99-104 and 107-108 were appealed. Claims 21, 28 and 40 have been amended as shown above to specify the vector (or cells) comprise first and second chimeric nucleases in which the zinc finger domain in each nuclease binds to a target site in an endogenous mammalian gene and the cleavage domain is a FokI cleavage domain. In addition, it is now made explicit that the two chimeric nucleases form dimers to cleave the endogenous mammalian gene and that the repair substrate is integrated in a targeted manner into this cleavage site. Claims 99-104, 107 and 108 have been canceled, without prejudice or disclaimer. Thus, claims 21, 28, 40, 43, 109-113, 120-135, and 137-143 are pending and claims 21, 28, and 40 are under active examination.

35 U.S.C. § 103(a)

The rejections of the appealed claims under 35 U.S.C. § 103(a) as allegedly obvious over Chouluka, Bibikova and Takeuchi were affirmed on Appeal. (Decision on Appeal, mailed September 9, 2010).

Applicants submit that the foregoing amendments obviate the rejection. In particular, it is noted that in support of their Decision, the Board upheld the rejection partly on the grounds that “claim 28 is not a method claim and claim 28 does not positively recite an isolated mammalian cell wherein a repair substrate has been integrated into its genome in a targeted (site-specific location).” (Board Decision, pages 14-15). The claims now specifically recite that the vector encodes (or the isolated mammalian cell comprises) two zinc finger nucleases that specifically target sites in an endogenous mammalian gene, that the nucleases form a dimer to cleave the gene; and that the repair substrate is integrated in a targeted manner at the cleavage site. As clearly evidenced by Porteus, as of the filing date, the claimed subject matter was not predictable from any combination of Chouluka (which does not disclose that zinc finger nucleases form dimers to cleave endogenous mammalian targets), Bibikova (which does not disclose cleavage of and targeted


integration into endogenous mammalian genes) and Takeuchi (which does not disclose zinc finger nucleases). Accordingly, withdrawal of the rejection is in order.

CONCLUSION

For the reasons stated above, Appellants respectfully submit that the claims on appeal are in condition for allowance. Accordingly, Appellants request that the rejections of the claims on appeal be reversed, and that the application be remanded to the Examiner so that the appealed claims can proceed to allowance.

Respectfully submitted,

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